

CLAIMS:

What is claimed is:

- 5 1. A method in a data processing system for isolating failing hardware in the data processing system, the method comprising:
- responsive to detecting a recovery attempt from an error for an operation involving a hardware component,
- 10 storing an indication of the attempt; and
- responsive to the error exceeding a threshold, placing the hardware component in an unavailable state.
2. The method of claim 1 further comprising:
- 15 clearing the unavailable state of the hardware component in response to a hot-plug action replacing the hardware component.
3. The method of claim 1, wherein the placing step
- 20 comprises:
- making a call to a hardware interface layer to place the hardware component into a permanent reset state.
4. The method of claim 1, wherein the indication is
- 25 stored in an error log.
5. The method of claim 1 further comprising:
- responsive to a selected number of recovery attempts occurring, recreating the error.
- 30 6. The method of claim 1, wherein the error is an error caused by a PCI bus operation.

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7. The method of claim 1, wherein the detecting and placing steps occur in a firmware layer within the data processing system.

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8. The method of claim 1, wherein the detecting step occurs in a device driver and placing steps occurs in a firmware.

10 9. The method of claim 1, wherein the threshold is the error successively a selected number of times.

10. A method in a data processing system for handling errors, the method comprising:

15 responsive to an occurrence of an error, determining whether the error is a recoverable error;

responsive to a determination that the error is a recoverable error, identifying slots on the bus indicating an error state;

20 incrementing an error counter for each identified slot; and

responsive to the error counter exceeding a threshold, placing the slot into a permanently unavailable state.

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11. The method of claim 10 further comprising:

responsive to the error counter failing to exceed the threshold, placing the slot into an available state, wherein a device within the slot resumes functioning.

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12. A data processing system comprising:

a bus system;

a communications unit connected to the bus system;

a memory connected to the bus system, wherein the

5 memory includes as set of instructions; and

a processing unit connected to the bus system,

wherein the processing unit executes the set of

instructions to store an indication of a recovery attempt

from an error in response to detecting the recovery

10 attempt; and place the hardware component in an

unavailable state in response to the error exceeding a

threshold.

13. A data processing system comprising:

15 a bus system;

a communications unit connected to the bus system;

a memory connected to the bus system, wherein the

memory includes as set of instructions; and

a processing unit connected to the bus system,

20 wherein the processing unit executes the set of

instructions to determine whether the error is a

recoverable error in response to an occurrence of an

error; identify slots on the bus indicating an error

state in response to a determination that the error is a

25 recoverable error; increment an error counter for each

identified slot; and place the slot into a permanently

unavailable state in response to the error counter

exceeding a threshold.

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14. A data processing system for isolating failing hardware in the data processing system, the data processing system comprising:

5 storing means, responsive to detecting a recovery attempt from an error, for storing an indication of the attempt; and

placing means, responsive to the error occurring in the more than a threshold for a hardware component, for placing the hardware component in an unavailable state.

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15. The data processing system of claim 14 further comprising:

clearing means for clearing the unavailable state of the hardware component in response to a hot-plug action .

15 replacing the hardware component.

16. The data processing system of claim 14, wherein the placing means comprises:

20 means for making a call to a hardware interface layer to place the hardware component into a permanent reset state.

17. The data processing system of claim 14, wherein the indication is stored in an error log.

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18. The data processing system of claim 14 further comprising:

recreating means, responsive to a selected number of recovery attempts occurring, for recreating the error.

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19. The data processing system of claim 14, wherein the error is an error caused by a PCI bus operation.

20. The data processing system of claim 14, wherein the detecting means and the placing means are located in a firmware layer within the data processing system.

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21. The data processing system of claim 14, wherein the detecting means is located in a device driver and the placing means is located in a firmware.

10 22. The data processing system of claim 14, wherein the threshold is the error successively a selected number of times.

23. A data processing system for handling errors, the
15 data processing system comprising:
determining means, responsive to an occurrence of an error, for determining whether the error is a recoverable error;

identifying means, responsive to a determination
20 that the error is a recoverable error, for identifying slots on the bus indicating an error state;

incrementing means for incrementing an error counter for each identified slot; and

placing means, responsive to the error counter
25 exceeding a threshold, for placing the slot into a permanently unavailable state.

24. The data processing system of claim 23, wherein the placing means is a first placing means and further
30 comprising:

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second placing means, responsive to the error counter failing to exceed the threshold, for placing the slot into an available state, wherein a device within the slot resumes functioning.

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25. A computer program product in a computer readable medium for isolating failing hardware in the data processing system, the computer program product comprising:

10 first instructions, responsive to detecting a recovery attempt from an error, for storing an indication of the attempt; and

second instructions, responsive to the error occurring in the more than a threshold for a hardware
15 component, for placing the hardware component in an unavailable state.

26. The computer program product of claim 25 further comprising:

20 third instructions for clearing the unavailable state of the hardware component in response to a hot-plug action replacing the hardware component.

27. The computer program product of claim 25, wherein
25 the placing step comprises:

third instructions for making a call to a hardware interface layer to place the hardware component into a permanent reset state.

30 28. The computer program product of claim 25, wherein the indication is stored in an error log.

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29. The computer program product of claim 25 further comprising:

third instructions, responsive to a selected number of recovery attempts occurring, for recreating the error.

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30. The computer program product of claim 25, wherein the error is an error caused by a PCI bus operation.

31. The computer program product of claim 25, wherein
10 the detecting and placing steps occur in a firmware layer within the data processing system.

32. The computer program product of claim 25, wherein
15 the detecting step occurs in a device driver and placing steps occurs in a firmware.

33. The computer program product of claim 25, wherein
20 the threshold is the error successively a selected number of times.

34. A computer program product in a computer readable medium for handling errors, the computer program product comprising:

25 first instructions, responsive to an occurrence of an error, for determining whether the error is a recoverable error;

second instructions, responsive to a determination that the error is a recoverable error, for identifying slots on the bus indicating an error state;

30 third instructions for incrementing an error counter for each identified slot; and

fourth instructions, responsive to the error counter

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exceeding a threshold, for placing the slot into a permanently unavailable state.

35. The computer program product of claim 34 further
5 comprising:

fifth instructions, responsive to the error counter failing to exceed the threshold, for placing the slot into an available state, wherein a device within the slot resumes functioning.